

What is claimed is:

1. An agitation type powder dissolving apparatus for reprocessing spent nuclear fuel, the apparatus comprising:
a dissolving tank to which powder of spent nuclear fuel is supplied;
an agitating member rotatably disposed in said dissolving tank; and
rise inhibiting means, disposed in said dissolving tank above said agitating member, for inhibiting the powder from swirling and rising due to the rotation of the agitating member.
2. The agitation type powder dissolving apparatus according to claim 1, wherein said rise inhibiting means is composed of a plurality of fixed blades for causing the powder which would otherwise swirl and rise due to the rotation of the agitating member to move downward.
3. The agitation type powder dissolving apparatus according to claim 2, wherein said fixed blade has a descending slope with respect to a swirling direction in swirling and rising.
4. The agitation type powder dissolving apparatus according to claim 1, wherein said rise inhibiting means comprises a plurality of half-round shaped swirl and rise inhibiting plates which are arranged hierarchically, each of said inhibiting plates having a dimension such that the inhibiting plates overlap one another in the respective centers of frames thereof, and said rise inhibiting plate has a slope ascending outward.

5. The agitation type powder dissolving apparatus according to claim 1, wherein said rise inhibiting means comprises a reversed-conical shaped swirl and rise inhibiting vane with a distribution hole formed in the center thereof.

6. The agitation type powder dissolving apparatus according to claim 3, wherein a top board having a number of distribution apertures is disposed above said fixed blades.

7. An agitation type powder dissolving apparatus for reprocessing spent nuclear fuel, the apparatus comprising:

- a dissolving tank to which powder of spent nuclear fuel is supplied;
- an agitating member rotatably disposed in said dissolving tank;
- rise inhibiting means, disposed in said dissolving tank above said agitating member, for inhibiting the powder from swirling and rising due to the rotation of the agitating member;

- a powder supply system for supplying the powder of the spent nuclear fuel to a lower part of said dissolving tank;

- a nitric acid supply system for supplying nitric acid to the lower part of said dissolving tank; and

- a solution discharge system for discharging a solution including said powder dissolved in said nitric acid from an upper part of said dissolving tank.